NON-PUBLIC?: N
ACCESSION #: 9507110106
LICENSEE EVENT REPORT (LER)

FACILITY NAME: Nine Mile Point Unit 2 PAGE: 1 OF 5

DOCKET NUMBER: 05000410

TITLE: Reactor Scram Caused by Generator High Stator Water Temperature
EVENT DATE: 06/05/95 LER #: 95-007-00 REPORT DATE: 07/05/95

OTHER FACILITIES INVOLVED: N/A DOCKET NO: 05000

OPERATING MODE: 1 POWER LEVEL: 077

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR SECTION:
50.73(a)(2)(iv)

LICENSEE CONTACT FOR THIS LER:
NAME: Mr. Raymond Dean, Technical Support Manager NMP2 TELEPHONE: (315) 349-4240

COMPONENT FAILURE DESCRIPTION:
CAUSE: SYSTEM: COMPONENT: MANUFACTURER:
REPORTABLE NPRDS:

SUPPLEMENTAL REPORT EXPECTED: NO

ABSTRACT:

On June 5, 1995 at 2253 hours, Nine Mile Point Unit 2 (NMP2) initiated a manual scram signal resulting in a full reactor scram. The manual scram was initiated in anticipation of an automatic scram on high reactor pressure resulting from a generator runback caused by high temperature in the Generator Stator Cooling Water System. At the time of the scram, the reactor mode switch was in the "RUN" position and the plant was operating at 77 percent of rated thermal power.

The immediate cause of the high temperature in the Generator Stator Cooling Water System, which resulted in the generator runback and subsequent scram, was an inappropriate reduction in the cooling water flow to the stator cooler heat exchanger. The root cause of the flow reduction was inadequate performance and coordination of a design review which resulted in the failure to identify incorrect information used in a

design change.

The immediate corrective actions were to perform the scram recovery actions and place the plant in a stable condition. Other corrective actions included correction of design documents, appropriate field adjustments and calibrations, revision of the design control procedure, disciplining of involved personnel, and re-emphasizing management expectations concerning interdiscipline design reviews.

END OF ABSTRACT

I. DESCRIPTION OF EVENT

On June 5, 1995 at 2253 hours, Nine Mile Point Unit 2 (NMP2) initiated a manual scram signal resulting in a full reactor scram. The manual scram was initiated in anticipation of an automatic scram on high reactor pressure resulting from a generator runback caused by high temperature in the Generator Stator Cooling Water System. At the time of the scram, the reactor mode switch was in the "RUN" position and the plant was operating at 77 percent of rated thermal power.

After increasing power from 70 to 77 percent, NMP2 experienced an automatic Main Generator Runback as a result of high temperature in the Generator Stator Cooling Water System. The five turbine bypass valves opened sequentially. After all the bypass valves had opened, Reactor Pressure Vessel
(RPV) pressure began rising from 987 psig; at 1003 psig
the Assistant Station Shift Supervisor ordered a reactor scram by placing the mode switch to Shutdown. Maximum RPV pressure during the event was 1011 psig.

All control rods inserted to Full In on the scram signal without exception. No Safety Relief Valves lifted during this event. Reactor vessel water level dropped from 183 inches indicated to approximately 143 inches indicated then rose to approximately 182 inches indicated. The water level transient was an expected response for this event. The Emergency Operating Procedures (EOPs) were entered, as required, when vessel level dropped below 159.3 inches indicated. The EOPs were appropriately exited after level was restored to the normal range.

All reactor systems responded to the scram as expected. The scram was reset at 2302 hours.

II. CAUSE OF EVENT

A root cause investigation was performed utilizing Nuclear Interfacing Procedure NIP-ECA-01, "Deviation/Event Report." The immediate cause of the high temperature in the Generator Stator Cooling Water System, which resulted in the generator runback and subsequent scram, was an inappropriate reduction in the cooling water flow (CCS) to the stator cooler (GMC) heat exchanger.

The root cause of the flow reduction was inadequate performance and coordination of a design review which resulted in the failure to identify incorrect information used in a design change. Contributing causes were miscommunication among several involved organizations and inadequate post-modification testing.

II. CAUSE OF EVENT (Cont'd.)

As part of the Power Uprate Project, which was implemented during the just completed refueling outage, it was determined that a revision to the Generator Station Service Data Sheet (Drawing 1.010-002-064) was required. The changes were identified on Engineering Design Change (EDC) 2E10978. In addition to other changes, the EDC contained an incorrect change to CCS flow. This EDC incorporated information received by letter dated August 23, 1994 from the turbine supplier. The accuracy of this information was not adequately verified. Although the revised document was under the control of the electrical design group, the change to the CCS flow was a mechanical design responsibility. Because the coordination and interdiscipline review of the change was inadequate, the incorrect information was not identified during the review and approval process.

The incorrect flow value was questioned by Operations Department personnel, but a series of miscommunications involving Niagara Mohawk Engineering and Operations and the turbine supplier did not result in adequate assessment or correction of the problem. An independent engineering contractor, who reviewed the Power Uprate Project, recommended that the Stator Cooling Water Temperature be monitored during power ascension. Because of an inadequate post-modification test review, the Technical Support group did not recognize that monitoring was required prior to reaching the original 100 percent power condition, nor did they ensure that all appropriate monitoring instruments were calibrated. As a result, temperature monitoring was not being performed at the time of the event, and Stator Water Cooling temperature element TE115 did not alarm. The post-event evaluation determined that the actual alarm setting was above the setpoint.

III. ANALYSIS OF EVENT

This event is reportable in accordance with 10CFR50.73(a)(2)(iv), "any event or condition that resulted in a manual or automatic actuation of any Engineered Safety Feature (ESF), including the Reactor Protection System (RPS)."

The manual scram was initiated in anticipation of an automatic scram on high pressure resulting from a generator runback caused by high temperature in the Generator Stator Cooling Water System. The event is bounded by the analysis discussed in the NMP2 Updated Safety Analysis Report (USAR) section 15.2.2, "Generator Load Rejection."

This event had no adverse consequences. It did not adversely affect any other safety system nor the operators' ability to maintain safe reactor plant conditions. This event in no way adversely affected the safety of the general public or plant personnel.

IV. CORRECTIVE ACTIONS

The immediate corrective actions were for operators to perform the scram recovery actions and place the plant in a stable condition.

The following corrective actions have been developed for this event.

1. Engineering issued EDC 2E00920 to correct the CCS flow to the stator cooling water heat exchanger, and the appropriate field adjustment has been made.

2. The engineering recommendations for monitoring the system have been implemented for the remainder of the startup test program, and the alarm setting of temperature element TE115 has been corrected.

3. Personnel involved in this event will be disciplined to reinforce the importance of proper performance of technical reviews, configuration control, and clear communications. Completion date: 7/21/95.

4. Procedure NEP-DES-220, "NMP2 Design Control Program," will be revised to incorporate the following changes:

a. The discipline owning a document will be responsible for the accuracy and correctness of data it borrows from other

disciplines and uses in its work and/or incorporates in its documents.

b. Interdisciplinary review shall not be limited to the review of the documents owned by a reviewing discipline. The reviewing discipline shall also review any data or information that may be pertinent to their discipline. Completion Date: 7/31/95

5. Management expectations regarding interdiscipline reviews will be re-emphasized by Engineering Management, who will focus on the responsibilities of both the preparers and reviewers, the need for clear communications, a questioning attitude, and the involvement of subject matter experts or team members as appropriate to the design change. Completion Date: 7/31/95

6. The Technical Support department will conduct training sessions to emphasize the need to communicate clearly and discuss issues with other departments if written communication is not understood. The training will also review the importance of

IV. CORRECTIVE ACTIONS (Cont'd.)

appropriate post-maintenance testing, particularly the status and capability of monitoring and control instrumentation. Completion Date: 7/31/95

7. A review of this event will be included as a topic in the continuing technical training program. Completion Date: 12/31/95

V. ADDITIONAL INFORMATION

A. Failed component: None

B. Previous similar events: LER 93-012 involved a reactor scram resulting from a generator runback caused by failure of a flow switch in the Generator Stator Cooling Water System. The previous event was caused by an equipment failure and the corrective actions would not have prevented this event.

C. Identification of components referred to in this LER:

COMPONENT IEEE 803 FUNCTION IEEE 805 SYSTEM ID

Stator Cooling Water System N/A TJ

Main Turbine Generator System N/A TA/TB

Turbine Bypass Valves SCV TA

Reactor Mode Switch 33 JC

Temperature Element TA TJ

ATTACHMENT TO 9507110106 PAGE 1 OF 1

NIAGARA
MOHAWK

NINE MILE POINT NUCLEAR STATION/ P.O. BOX 63, LYCOMING, NEW YORK 13093/TELEPHONE (315) 343-2110

July 5, 1995
NMP2L 1559

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

RE: Docket No. 50-410
LER 95-07

Gentlemen:

In accordance with 10CFR50.73 (a)(2)(iv), we are submitting LER 95-07, "Reactor Scram Caused by Generator High Stator Water Temperature."

Very truly yours,

Kim A. Dahlberg
Plant Manager - NMP2

KAD/AFZ/lmc
Attachment

xc: Mr. Thomas T. Martin, Regional Administrator, Region I
Mr. Barry S. Norris, Senior Resident Inspector

*** END OF DOCUMENT ***